



# PSYCHOPHARMACOLOGY NEWSLETTER

(Division 28 - The American Psychological Association)

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## REPORT OF THE NEUROBEHAVIORAL TOXICITY TEST STANDARDS COMMITTEE

Congress established the Toxic Substances Control Act in 1976 to prevent unreasonable risk of injury to health or the environment resulting from exposure to chemicals; behavioral disorders were included among the adverse health effects to be prevented. Four years later, the Environmental Protection Agency announced its intent to propose testing of some chemicals, testing which would include some neurobehavioral toxicity evaluation. On September 4, 1980, Division 28 appointed a committee (Ron Wood, Larry Byrd, Bob Balster, and Herb Barry) to offer comment on these activities in an attempt to insure that testing, if any, would be of high quality and would profit from the experience gained during the past 30 years of research in behavioral and psychopharmacology. This brief report will highlight developments since our last report in the January 1983 newsletter.

The stated intent of the Act led many to believe that a vigorous testing program was about to be put into place. Experience has shown that this enthusiasm was premature. The law insists on the submission of any existing toxicity data on new chemicals, but has no authority to require testing of new chemicals before introduction into the workplace. (If the agency has some concern, it requests gloves and goggles for the workers, and may request testing if a significant new use is contemplated). Testing can be required for existing chemicals, but only after a prolonged bureaucratic process that can cost more than the testing itself! The first test rule requiring any neurobehavioral testing was issued last summer, and the testing has not been completed on a single mixture.

Our committee has commented repeatedly on a variety of chemicals, and our comments have been acknowledged and considered by the agency. One must confess a sense of frustration when so little testing results from the effort expended, and when the decision not to test follows four years after our detailed comments on how and why to test a particular compound. The agency has on occasion refused to require minimal testing even of acutely effective convulsants, e.g. the phenylenediamines, industrial chemicals present in hair dye and in industrial processes. Unless this reluctance to test is reversed, we can be certain that the

American people, and workers in particular, will not be protected against compounds that may impair behavioral function.

The severity of the problem was discussed in a recent report from the National Academy of Sciences entitled "Toxicity testing: Strategies to determine needs and priorities." (We all stand indebted to Don McMillan for his enormous efforts on this committee.) Because so few chemicals have been tested, neurobehavioral toxicity evaluation emerged in this report as one of the higher priority toxicity testing needs today.

How are chemical exposures regulated in the workplace? Kent Anger of the National Institute of Occupational Safety and Health reviewed the health effects cited upon which the 588 existing occupational exposure limit values were set; 167 (28%) of these were based on the prevention of effects on the nervous system! (*Neurobehavioral Toxicology and Teratology* 6:147-153, 1984.) If we are ultimately to rely upon behavioral and neurological complaints to set recommended exposure limit values, it is inappropriate to continue to rely principally on workplace exposures for guidance when procedures do exist to identify adverse neurobehavioral effects in laboratory animals.

Despite the current inactivity, the Toxic Substances Control Act remains an appropriate vehicle for identifying and reducing the risks of adverse health effects resulting from chemical exposure. However, the law fails to recognize mankind's fundamental ignorance about chemical toxicity. Hazards need to be identified before reasonable standards can be set for occupational exposure or environmental release. Given limited knowledge, substantial testing of all large-volume chemicals should be considered as a remedy. Furthermore, since our ability to predict toxicity from chemical structure is primitive, some minimum testing of all new chemicals should be undertaken. Senator Durenberger introduced legislation (S.3075) in the 98th Congress that addresses many of these problems, and strengthens TSCA by establishing the policy that the chemical industry has "...a duty to be informed about the toxic effects of such chemical substances and mixtures, and to take appropriate actions to prevent exposures that might be harmful to human health or the environment." The Senate Environment and Public Works committee intends to deal with the

reauthorization of this act in the foreseeable future. Consideration of such legislation is, unfortunately, stuck in a queue behind the Superfund and the Clean Water Act, items with large and influential groups behind them. Letters to Senator Stafford's committee (Environment and Public Works) would be helpful; we will call upon you for more pointed letters when and if appropriate legislation is under consideration.

On a more upbeat note, there have been some encouraging developments:

(1) The Organization for Economic Cooperation and Development (roughly the Common Market Countries) has general chemical testing requirements that are set off by volume triggers. Unfortunately, it does not have any mammalian neurobehavioral testing requirements. At the request of our committee, EPA has initiated proposals for the adoption of some minimal testing requirements by this body. It will take several years at best for these to go into effect.

(2) The test guidelines for neurobehavioral toxicity evaluation appeared in the Federal Register on the 27th of September 1985. Tina Levine and Bill Sette played a major role in the development of these guidelines; our committee was initially formed to provide comment on them. The Office of Pesticides (a different Office and authority) has recently adopted the guidelines for use when neurobehavioral toxicity is suspected. We anticipate greatly expanded activity here, especially so with the new climate for pesticide regulation expected with the upcoming reauthorization of the pesticide legislation supported by both environmentalists and industry.

(3) Extensive hearings on neurobehavioral toxicity were held in the last session of Congress before the Subcommittee on Investigations and Oversight of the House Committee on Science and Technology. Don McMillan, Bernie Weiss, Peter Spencer and others represented our interests very well, indeed. Thanks are due to Bambi Batts Young of the Center for Science in the Public Interest for her efforts in stimulating these hearings. Copies of this testimony ("Behavioral Effects of Neurotoxins") can be requested from Congressman Harold Volkmer of Missouri.

(4) Ron Wood represented APA before a joint hearing of the Health and Safety Subcommittee and the Labor Standards Subcommittee of the Education and Labor Committee of the United States House of Representatives (Joseph Gaydos, Chair) last November. The National Policy Studies Office identified hearings on "right-to-know" legislation as an appropriate opportunity for us, and that crew deserves our thanks (Alan Kraut and Don White). Copies of this testimony (High Risk Occupational Disease Notification and Prevention Act) are available upon request.

(5) A symposium was sponsored by the FDA on "Predicting neurotoxicity and behavioral dysfunction from preclinical toxicologic data" last September. This meeting was an encouraging event, and may be followed by general testing requirements from that agency.

(6) The office of Technology Assessment of the

Congress published a report entitled "Impacts of Neuroscience." The report contains a substantial piece largely attributable to Kent Anger on the importance of neurobehavioral toxicity and its evaluation.

(7) An international workshop on the neurobehavioral effects of solvents was held in October to review the current status of knowledge and to make research suggestions. (The Scandinavian countries recognize the existence of a human "solvent syndrome" and compensate exposed populations for a variety of complaints.) A summary appeared in *Neurotoxicology* (6:99-102, 1985), and the full report is due soon. Strong recommendations for the minimization of exposure and for human and animal research are included.

(8) The National Policy Studies Office and the Office of Scientific Affairs of APA has picked up on the neurobehavioral toxicity issue and has done a number of praiseworthy things: arranged a talk at their Science Policy Forum by B. Weiss; arranged the testimony referred to above; stimulated an article in the December APA Monitor (pp 13-14); prepared a letter to Congresspeople on the TSCA issue; and provided our committee with a pricey newsletter. Their efforts are appreciated (Ruby Takanishi and Virginia Holt).

The intent of the committee in the near future is to turn our focus slightly away from individual chemicals recommended for testing (unless there is a general principle at stake) towards structural issues pertinent to the process. For example, both T.E. Levine and W.F. Sette, the neurobehavioral expertise of EPA in the Office of Toxic Substances have left for Pesticides (greener fields!). There must be expertise in the Office to deal with neurobehavioral toxicity if there is to be moderately rational regulation. We will also attempt to keep an eye on the legislative process, in cooperation with the National Policy Studies Office of APA. If you have any questions about any of these activities, feel free to contact a member of the committee, currently consisting of Bob Balster, Hugh Evans, and me, Ron Wood, Chair.

#### **BEHAVIORAL PHARMACOLOGY AT THE UNIFORMED SERVICES UNIVERSITY OF THE HEALTH SCIENCES**

Pre- and Postdoctoral training in behavioral pharmacology is available at the Uniformed Services University of the Health Sciences. Admission to the predoctoral program is most feasible by applying to the Medical Psychology Department. At the graduate level, students need not be applicants from the military nor is it necessary to fulfill any military requirements upon completion of graduate work. Course work and research is available and encouraged in behavioral and medical pharmacology, conditioning and learning, neuroanatomy, neuropharmacology and physiology. A wide variety of research opportunities is available with compatibly collaborative arrangements at the University and at nearby universities and institutes such as NIH and Walter Reed Army Institute of Research. For more information contact Dr. James E.

Barrett, Department of Psychiatry, Uniformed Services University of the Health Sciences, 4301 Jones Bridge Road, Bethesda, Maryland 20814-4799.

#### APA CONTINUING EDUCATION WORKSHOPS AT ANNUAL MEETING

At the 1986 Annual Meeting, August 22-26 in Washington, D.C., the APA Continuing Education Committee will sponsor several Workshops that are of potential interest to Division 28 members.

1. *Drugs and the Mind: A Biological Perspective for Psychologists.* This workshop, co-sponsored by Division 28 and the APA Continuing Education Committee and presented by Ronald M. Clavier, Ph.D., is designed for clinical, experimental and academic psychologists, particularly those who work with individuals who are using or abusing psychoactive drugs or who design research studies involving the effects of psychoactive drugs. This introductory workshop will review organic aspects of behavioral disorders, mechanisms of pharmacological treatment, the biological bases of brain function and dysfunction, and the practical aspects of effects of psychoactive drugs on patients in clinical settings and on participants in experimental drug studies.
2. *How to Write AND Get Published.* Presented by Brian T. Yates, Ph.D., this workshop will offer specific techniques for writing professionally, telling you how to turn just one or two hours a day into several published articles a year and a published book every few years. In addition, detailed strategies will be taught for how to get manuscripts accepted by publishers.
3. *Preparing a SUCCESSFUL Research Grant Proposal.* This workshop, to be presented by Robert P. Lowman, Ph.D. and Peter M. Vietze, Ph.D., is designed for psychologists who wish to submit successful research grant proposals to the Public Health Service. The workshop will present essential components of effective research grant proposal writing, including identifying sources, peer review process, development of ideas, and use of appropriate format.
4. *Starting a Successful Consulting Practice.* The workshop will be presented by Brian T. Yates, Ph.D., Nancy Marwick DeMuth, Ph.D., M.B.A., Thomas Backer, Ph.D., and Margaret Hastings, Ph.D. Designed for psychologists in any field who want to become full- or part-time consultants, the workshop will present types of consultation which can be performed by psychologists with different kinds of backgrounds and will discuss consultations with social and health services, research institutes, small businesses, and large corporations.

For complete information on schedules, fees, and

learning objectives for any of these workshops, contact Rosemary Beiermann at the Continuing Education Office, American Psychological Association, 1200 17th Street, N.W., Washington, D.C. 20036, telephone (202) 955-7719. Many workshops fill quickly, so early registration is advised. Also, a discount of \$10 PER WORKSHOP is available for registrations postmarked on or before July 20, 1986.

#### MEETING ANNOUNCEMENTS

##### European Behavioural Pharmacology Society

The first meeting of the European Behavioural Pharmacology Society (EBPS) will be held in Belgium on July 2-7, 1986. It will consist of a main scientific meeting (July 3-5), a business meeting (July 6), and a satellite workshop (July 5 and 7) on Transduction Mechanisms of Drug Stimuli. Both the main EBPS meeting and the satellite workshop are open to scientists from any nation. The deadline for abstracts for both meetings is May 15 if the abstracts are to be published in *Psychopharmacology* and May 30 for abstracts that will be published in the meeting program only. Send abstracts to or request other information from Dr. F.C. Colpaert, Dept. of Psychopharmacology, Janssen Pharmaceutica, B-2340 Beerse, Belgium.

##### Joint Meeting of ISGIDAR and SSPD

The International Study Group Investigating Drugs as Reinforcers (ISGIDAR) and the Society for the Stimulus Properties of Drugs (SSPD) will co-sponsor a scientific meeting on June 15, 1986 in Lake Tahoe, Calif. Papers on drug self-administration or stimulus control of behavior by drugs will be presented. Registration will be at 8:30 a.m. and a \$15 registration fee will be charged. For more information, contact William L. Woolverton, Ph.D., Dept. of Pharmacology-Physiology, University of Chicago, 947 E. 58th St., Chicago, IL 60637 or Debra Bennett, Ph.D., Neuroscience Research, Ciba-Geigy Pharmaceuticals, 505 Morris Ave., Summit, NJ 07901.

##### Division 28 Informal Paper Session

Division 28's program for the 1986 APA annual meeting will again include an informal paper session to be held during the hospitality suite hours. Please submit any suggestions for this session or brief descriptions of presentations you would consider presenting during the Informal Paper Session to: Steven L. Dworkin, Ph.D., LSU School of Medicine, Department of Psychiatry, P.O. Box 33932, Shreveport, LA 71130.

##### DIVISION 28 MEMBERSHIP

Our program hours and representation in APA are related to the size of Division membership. To these ends, it is beneficial to encourage colleagues whose interests are similar to the Division to seek and obtain membership. If each of us were to successfully recruit one new member, effects on quantity and perhaps even

quality of program time would likely be rapidly observed. Please feel free to increase my work load. In addition, although there is no official student status in APA, the division does have an "unofficial" student status. These members will receive the newsletter and other division correspondence relevant to them. So, please encourage appropriate graduate students to seek such association. Send names and addresses of individuals who are or may be interested in membership to James E. Smith, Ph.D., Division 28, Membership Chairperson, Department of Psychiatry, LSU Medical Center, P.O. Box 33932, Shreveport, LA 71130, (318)674-6055.

#### **APA ANIMAL RESEARCH GUIDELINES**

Guidelines for Ethical Conduct in the Care and Use of Animals, prepared by APA's Committee on Animal Research and Experimentation (CARE) and adopted as APA policy in August 1985, is now available in brochure or poster. One copy of the brochure is available free from Eric Meslin, APA Scientific Affairs, 1200 17th St. NW, Washington, DC 20036.

#### **REVIEWS IN CLINICAL AND BASIC PHARMACOLOGY**

The journal, *Reviews in Clinical and Basic Pharmacology*, co-edited by Richard P. Ebstein and Robert H. Belmaker, publishes quality review articles in all aspects of clinical and basic pharmacology. Such reviews are to be of wide-ranging scope, encompassing all the up-to-date experimental and theoretical areas of the pharmacological sciences and developments within these areas. The journal will be of interest to all pharmacologists, scientists and physicians in related fields working in basic research, medicine and industry. Since its beginning, at least 40% of the articles have dealt with issues relevant to CNS pharmacology and therefore of potential interest to Division 28 members. Institutional subscriptions (\$95) or personal subscriptions (\$43) are available from Freund Publishing House, Ltd., P.O.B. 35010, Tel-Aviv, Israel.

#### **RESEARCH SUPPORT GUIDE AVAILABLE WITH ADDENDUM**

An Addendum which updates the second edition of the American Psychological Association's Guide to Research Support is now available. The Guide covers 180 federal programs and 55 foundations and other private organizations that fund research of interest to behavioral scientists. The Addendum supplements the second edition with new and expanded information for more than half of the programs listed. Compiled by the staff of the APA Scientific Affairs Office, the Guide and its Addendum are the only sourcebooks of their kind designed to assist researchers in the behavioral and social sciences.

The entries in the Guide describe research areas supported and application procedures for each program.

In addition, names, addresses, telephone numbers, and contact personnel are provided. Current owners of the second edition of the Guide may purchase the Addendum separately for \$12.50 (APA Members/Affiliates) or \$17.50 at list price. New buyers can purchase both the second edition and the Addendum together for \$30.00 (Members/Affiliates) or \$37.50 list. Add \$1.50 per order for postage and handling. These products are available through the APA Order Department, P.O. Box 2710, Hyattsville, MD 20784. Orders totaling \$25 or less must be prepaid. Allow 4-6 weeks for delivery.

#### **APA JOURNAL DONATION PROGRAM**

APA continues to seek donors and recipients for the active journal donation clearinghouse managed by the International Affairs Office at APA. The program is designed primarily to enable individual psychologists to donate collections of psychological journals to libraries (or other groups) that can use them. The program presently involves approximately 50 donors and 75 recipients.

Prospective donors should write for a complete description of the program, including information on packing and shipping donations, and on the general tax treatment of such donations to Mr. Steven Kennedy, APA International Affairs Office, 1200 17th Street, N.W., Washington, DC 20036, U.S.A.

#### **FEDERAL BUDGET ANALYSIS**

An analysis of the proposed FY 1987 federal research budget and its implications for psychological research has been prepared by staff of APA, the American Educational Research Association, and the Federation of Behavioral, Psychological and Cognitive Sciences. Individuals who would like to receive a copy may contact Virginia Holt, Scientific Affairs Office, American Psychological Association, 1200 17th St., N.W., Washington, DC 20036.

#### **WORKING GROUP EFFORT EXPANDS**

Members of the APA Committee on Research Support (CORS) concluded at their February 1986 meeting that the activities of the research agency working groups are essential to the future of psychological research. The working groups, which operate as task forces of CORS, were formed in 1985 to monitor and interact with major federal research funding agencies on matters of importance to research psychologists.

CORS agreed to continue its two original working groups - the National Science Foundation (NSF) and the National Institute on Mental Health (NIMH) - and decided to form two new groups. Working groups for the National Institute of Child Health and Human Development (NICHD) and the National Institute on Drug Abuse (NIDA) will begin operating in 1986.

Among the issues the working groups are expected

to address in 1986 are levels of research support for and new initiatives in the behavioral sciences, peer review issues, staffing of agency research programs, and research training support. In addition, CORS is now considering ways in which APA Divisions could play an official role in the working groups. The Committee plans to have a meeting at the APA Convention with divisional representatives to plan for future collaborative efforts.

#### **ANIMAL RESEARCH SURVEY**

In the spring, the Committee on Animal Research and Experimentation (CARE) and the APA Office of Demographic, Employment and Educational Research (ODEER) will survey departments of psychology on the use of animals in research. A preliminary survey was conducted in 1984. The purpose of the upcoming survey is to develop a database for use in public information and education, APA policy development, and legislative and regulatory initiatives. The survey will collect data on the number and type of animals used in research and teaching, the number of courses using animals, the extent to which the ethics and values of animal research is discussed in classes, types of procedures used in animal research, and the institution's source(s) of support for animal research.

#### **POSITIONS AVAILABLE**

**RESEARCH ASSISTANTSHIP:** Beginning July 1, 1986, a position is available in an ongoing project studying the effects of ethyl alcohol on animal behavior. Applicant must be interested in pursuing a Ph.D. in Motor Control and/or Biopsychology, focussing on the effects of chronic alcohol on fast movement reactions to sensory stimuli in rats. Contact Dr. Waneen Spirduso, Belmont 222 (512/471-4168) or Dr. Timothy Schallert (512/471-5175), The University of Texas, Austin, TX, 78712.

#### **POSTDOCTORAL RESEARCH FELLOWSHIPS:**

Several positions in human behavioral pharmacology and substance abuse are available during 1986 at the Johns Hopkins University School of Medicine. Studies of (1) benzodiazepine clinical pharmacology; (2) drug effects on psychomotor, cognitive, and social behavior, mood and affect; (3) opioid physical dependence and stimulus effects; (4) analysis of cigarette smoking behavior; (5) substance abuse treatment (methadone, polydrug) are possible in a productive laboratory with excellent resources and support. USPHS stipends: \$16,000-22,000 approx. Send letter of interest, vita, and names of 3 references to: George E. Bigelow, Ph.D.; D-5 West, Psychiatry; Johns Hopkins/Key Medical Center; Baltimore, Maryland 21224; (301)955-0035.

#### **IT'S YOUR NEWSLETTER**

This newsletter can provide a valuable service for Division 28 members if you choose to utilize it. It is circulated to approximately 1200 people who have a direct involvement and/or interest in the area of psychopharmacology. As such, publishing in the newsletter provides you with direct and free access to the audience you'd most like to reach. Have a position available? Send an announcement giving the details. Would you like to inform others about graduate education in your department? Send a description of the program, participating faculty and research opportunities. Have you recently written or edited a book you'd like to promote? Send a brief description. Or how about an article you've just published and would like to bring to the attention of others? Don't be modest - send an abstract. It's your newsletter - please feel free to use it!

Deadline for the next issue is July 1. Send materials to Nancy J. Leith, Ph.D., G.D. Searle & Co., 4901 Searle Parkway, Skokie, IL 60077.

